

Application Serial No. 10/729,882
Response to Office Action of March 21, 2006

Amendments to the Claims:

This listing of claims will replace all prior version and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A method of processing a workpiece, the method comprising the steps of:

fastening a workpiece to be processed to a work carrier by means of a solid that is applied in liquefied form,

wherein the work carrier comprises a porous material including a plurality of pores at least a portion of which are interconnected; and

wherein the plurality of pores are configured to accommodate a portion of the liquefied solid upon application of vacuum pressure to the work carrier;

hardening the liquefied solid;

processing the workpiece while holding the workpiece on the work carrier; and

applying a solvent through the plurality of pores to dissolve the solid and release the workpiece from the work carrier.

2. (Previously presented) The method as claimed in claim 1, wherein the work carrier comprises a gas-permeable work carrier.

3. (Currently amended) The method as claimed in claim 1, wherein the solid functions to separate the workpiece and the work carrier; wherein the workpiece is released by means of a solvent.

4. (Cancelled)

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5. (Currently amended) The method as claimed in claim 1, wherein the porous material comprises a ceramic, a glass, a glass ceramic, a metal, a sintered metal, a metal ceramic or a sintered material.

6. (Currently amended) The method as claimed in claim 1, further comprising wherein processing the workpiece comprises thinning the workpiece on the work carrier.

7. (Previously presented) The method as claimed in claim 1, wherein the solid comprises a material selected from a group consisting of: wax, adhesive, a plastic material, or a double-sided adhesive tape.

8. (Previously presented) The method as claimed in claim 1, wherein the workpiece contains a semiconductor material.

9. (Previously presented) The method as claimed in claim 1, wherein the solid fills at least a portion of an intermediate space between the workpiece and the work carrier.

10. (Currently amended) A work carrier for processing a workpiece, said work carrier comprising a porous material including a plurality of pores at least a portion of which are interconnected, wherein the plurality of pores are configured to accommodate a portion of a liquefied solid upon application of vacuum pressure to the work carrier, and to accommodate the solid upon hardening the solid, and to provide for flow of a solvent therethrough to dissolve the hardened solid.

11. (Currently amended) The work carrier as claimed in claim 10, wherein the workpiece comprises a semiconductor wafer, and wherein the diameter of the work carrier is equal to the diameter of the semiconductor wafer.

12. (Currently amended) The method as claimed in claim 1 wherein fastening the workpiece further comprises generating a vacuum at the work carrier.

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13. (Previously presented) The method as claimed in claim 12 wherein the vacuum is generated after the application of the solid in liquefied form and before the hardening of the solid.

14. (Previously presented) The method of claim 4 wherein, to separate the workpiece and work carrier, said solvent penetrates into passages from a pore or from the plurality of pores through the work carrier up to the solid.

15. (Currently amended) The method of ~~claim 14~~ claim 1, wherein the separation of releasing the workpiece from the work carrier preferably further comprises separation releasing the workpiece by the generation of generating a positive pressure on a side backside of the work carrier ~~which is remote from the workpiece~~.

16. (Currently amended) The method as claimed in claim 1, wherein the average pore size porous material has a value of comprises a porous material having average pore size of between 20 μ m and 500 μ m, and wherein the a porosity of the porous material has a value of between 20% and 50%.

17. (Currently amended) The method as claimed in claim 1, wherein the porous material value of the comprises a porous material having an open porosity of the porous material lies between 10% and 60%.

18. (Currently amended) The method as claimed in claim 1, wherein a portion of the plurality of pores include pore passages, wherein the pore passages comprise at least 10% of the pore volume, and wherein the pore passage traverse the porous material from a top side to a ~~rear~~ side backside of the work carrier.

19. (Previously presented) The method as claimed in claim 1, wherein the porous material comprises a ceramic material manufactured according to one of German Institute Standard DIN 51056, 1985 or European Standard 623-2, 1992, and wherein the pores are arranged irregularly.

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20. (Currently amended) The method as claimed in claim 1, wherein the porous material comprises a porous material having an the average pore size ranges from 50 μ m to 100 μ m.

21. (Currently amended) The method as claimed in claim 1, wherein the porous material comprises a porous material having an the value of the open porosity of the porous material lies between 20% and 50%.

22. (Previously presented) The work carrier as claimed in claim 10, wherein the plurality of pores comprise a branched pore network within the work carrier.

23. (Previously presented) The work carrier as claimed in claim 10, wherein a portion of the plurality of pores include pore passages, wherein the pore passages comprise at least 10% of the pore volume, and wherein the pore passages traverse the work carrier from a top side to a rear side of the work carrier.